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Returns and profitability of kharif soybean in Yavatmal District of Vidarbha region

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Abstract
Present study was designed to measure returns and profitability in soybean production of Yavatmal district of Vidarbha region. In present investigation the sample of 60 soybean grower were selected from study area which output input data collected based on kharif cropping seasons in the year 2017-2018. Multistage sampling design was adopted in selection of District, Tehsils and villages. The Yavatmal District was selected because this district is having large farming area of soybean crop. Two Tehsil were selected from district on the basis of maximum area under large farm. From selected Tehsils five villages were selected from each of Tehsils on the basis of large farm area. The results of study revealed that per hectare total cost with regards to soybean crop was Rs. 31966.43 in which cost A was Rs. 23491.24 having the share of 73.49 per cent and cost B was Rs. 28931.43 having the share 90.50 per cent. The different majors of farm income were also estimated at their respective costs, output input ratio and per quintal cost of production. Gross returns was Rs. 79828.83 in which share of main produce was 98.63 per cent while the share of by produce was 1.38 per cent. It was obvious that net profit was Rs. 47862.4. It was clear that; output input ratio was 2.5.

Keywords: Cost, returns, profitability, output, input, Soybean

Introduction
Economic analysis is a systematic approach to determining the optimum use of scare resources, involving comparison of two or more alternatives in achieving a specific objective under the given assumptions and constraints. The overall profitability of farm depends upon the income achieved from overall farm activities.

Agriculture has got a prime role in Indian economy and is the prime source of National income. Agriculture development is the basic and essential for economic development and human welfare. Share of agriculture in Gross Domestic Product is 17.4% in 2016-17. About 65 per cent of the total population is directly and indirectly engaged in farming. The agriculture sector provides employment to 58.4 per cent of country's work force. Agriculture is the single largest private sector occupation in the country. The geographical area of Maharashtra is 30.37 million hectares, out of which net sown area is 22.25 million hectares. The area operated by large holding is 12.32 per cent and the number of large farmers to total farmers is 1.79 per cent.

Resource productivity in agriculture is influenced by number of factors such as cropping pattern, intensity of input use, timely availability and application of various input in adequate quantities, type of soil, general efficiency farm entrepreneurs and workers. Agricultural prices and marketing policy of the government for an effective manner for continuous development of agriculture in the country. The knowledge of costs and returns in farming from the farm as a whole, on which farm family investment decision are based rather than on the returns from a single crop. An attempt has been made in the present study to work out costs and returns from the farm as a whole and examines extent of income accruing to different size farm.

The overall profitability of farm depends upon the income achieved from overall farm activities. The farm business income gives an idea about the net income received from the various crop enterprises vis-a-visthe expenses incurred on the different crop enterprises taken together. The present study attempt to focus overall income per hectare received from various crop entities on the farm and the profitability over the total cost.

Material and Methods
Multistage sampling design was used for selection of zone, tehsils, villages and farms in Yavatmal district of Vidarbha region. In first stage, the Yavatmal district was selected because

this district is having large farming area. In second stage, 2 tehsils were selected from district on the basis of maximum area under large farm. In third stage, from selected tehsils five villages were selected from each of tehsil on the basis of large farm area. In fourth stage, from each cluster villages, six farmer were selected. Thus total sample size were 60. The cost concepts like Cost A, Cost B and Cost C were used for cost evaluation and to calculate profitability in Soybean production. Cost A includes the items namely hired human labour, bullock labour, machine labour, seed, fertilizer, manure, plant protection, land revenue, incidental expenditure, interest on working capital and depreciation on assets and farm building. Cost B comprises of cost A plus rental value of land and interest on fixed capital. Cost C includes the cost B and imputed value of family labour. The terms and concept used in present study were as follows. Interest of working capital was calculated by charging interest at the rate of 13 per cent on item of expenditure as hired human labour bullock labour, machine labour, seed, fertilizers, manure, plant protection, land revenue and incidental charges for crop cultivation.

Depreciation is the decrease in the value of asset through wear and tear. Straight line method was used for calculating depreciation. The uniform rate of 10 per cent on the present value at the beginning of the year of farm implements and machinery was taken and only the proportionate charges were taken for the crop on hectare basis. Rental value of owned land was estimated as 1/6th of the value of gross produce i.e. value of main produce plus value of by produce minus land revenue. Interest on fixed capital calculated by charging interest at the rate of 11 per cent of investment on commonly used assets like wooden implements, equipment and which distributed on cropped area. Commonly used asset includes plough, harrow, seed drill, hoe, bullock cart, hand sprayer, machine sprayer and power sprayer. Irrigation structure includes capital investment on well, electric motor, pipeline and electric motor shed. Annual expenditure on irrigation structure mean, electric charge, repairing charge depreciation on electric motor (@ 10 per cent), depreciation on well (@ 2 per cent), depreciation on pipeline (@ 10 per cent) and interest on fixed capital (@ 10 per cent).

Results and Discussion

Per hectare physical inputs used and output obtained in soybean production per hectare cost and returns of soybean crop with respect to use of physical inputs and main produce, as well as by produce were estimated and are presented in Table 1. In regard to use of physical inputs in soybean it was observed that the use of hired human labour and family human labour was 22.26 and 10.38 man days, respectively. Use of machine labour was 1.19 hours while the use of bullock labour was 1.66 pair days. In case of use of fertilizers, total quantity of NPK was used 65.5 kg. In general, use of manure was 2.21 quintals. It implied that use of pesticides also entered in soybean. The use of plant protection was 3.77 per cent also the results revealed that cost-C was Rs. 31966.43 in which cost-A was Rs. 23491.24 having the share of 73.49 per cent in cost-C. Among individual items of costs, rental value of land was dominant with 12.62 per cent. In next order hired human labour showed the highest share of 25.22 per cent followed by seed (13.58 per cent), manure (1.19 per cent) and irrigation charges (6.06 per cent). It was found that hired human labour, manure, rental value of land and seed were the major items of expenditure.

Per hectare main produce, by produce and gross returns were also calculated and presented in Table 2. It was clear from the table that main produce of soybean was 23.57 quintals while by produce was 6.37 quintals. It was clear from the table that gross return was found to be Rs.79828.83 in which the share of main produce was 98.62 per cent while the share of by produce was 1.38 per cent. It was obvious that net profit from soybean crop was found to be Rs. 47862.4. The output-input ratio was 2.50.

Table 1: Per hectare use of physical input and output in Soybean production unit/ha.

Sr. No.	Particulars Input	Unit	Physical Quantity
1.	Human hired labour	Man days	22.26
2.	Family human labour	Man days	10.38
3.	Bullock labour	Pair days	1.66
4.	Machine labour	Hours	1.19
5.	Seed	Kg	73.71
6.	Manure	Qt.	2.21
7.	Fertilizer (N:P:K)	Kg	65.5
8.	Plant protection	Litre	3.90
9.	Irrigation Output	**m³**	230.50
10.	Main produce	Qt.	23.57
11.	By produce	Qt.	6.37

Table 2: Per hectare cost of cultivation in soybean production

Sr. No	**Particulars** Input	Unit	Physical Quantity	Amount(Rs.)	Percentage
1.	Hired human labour	Man days	22.26	8065	25.22
2.	Bullock labour	Pair days	1.66	830.00	2.59
3.	Machine labour	Hours	1.19	476.00	1.48
4.	Seed	Kg	73.71	4342.15	13.58
5.	Fertilizer (N:P:K)	Kg	65.5	3702.65	11.58
6.	Irrigation	m³	230.50	1938.14	6.06
7.	Manure	Qt.	2.21	381.51	1.19
8.	Plant protection	Litre	3.90	1205.93	3.77
9.	Land revenue	-	-	140	0.43
10.	Incidental charges	-	-	662.86	2.07
11.	Interest on working capital @6%	-	-	2412.78	7.55
12.	Depreciation on capital assets @10%	-	-	540.15	1.69
13.	Cost A (1 to 12)	-	-	23491.24	73.49
14.	Rental value of land	-	-	4109.17	12.62
15.	Interest on fixed capital@11%	-	-	1409.17	4.39
16.	Cost B(12+13+14)	-	-	28931.43	90.50
17.	Family human labour	Mandays	10.38	3035.00	9.5
18.	CostC (16+17)	-	-	31966.43	100

Table 3: Per hectare profitability of soybean production (Rs./ha)

Sr. No.	Particulars	Amount
1.	Returns from main produce	78734.43
2.	Returns from by produce	1094.39
3.	Gross return (1 to 2)	79828.83
4.	Cost A	23491.24
5.	Cost B	28931.43
6.	Cost C	31966.43
7.	Farm business income (Gross return - cost A)	56337.59
8.	Family labour income (Gross return- cost B)	50897.5
9.	Net profit (Gross return -Cost C)	47862.4
Output Input Ratio	-	2.50

The results revealed that cost-C was Rs. 31966.43 in which cost-A was Rs.23491.24having the share of 73.49 per cent in cost-C. Among individual items of costs, hired human labour was dominant with 25.22 per cent, followed by seed (13.58 per cent), manure (1.19 per cent) and irrigation charges (6.06 per cent). The main produce and by-produce of soybean was 23.57, 6.37 quintals, respectively. The gross return was found to be Rs.79828.83 in which the share of main produce was 98.62 per cent while the share of by produce was 1.38 per cent. It was obvious that net profit from soybean crop was found to be Rs. 47862.4. The output- input ratio was 2.50.

References

1. Audu SI, Girei AA, Onuk EG, Onyenye PO. Productivity and Profitability of Groundnut Production (*Arachis hypogea* L.) in Lafia Local Government Area, Nasarawa State, Nigeria. Asian Research Journal of Agriculture. 2017;4(3):1-11.
2. Babiker Mahgoub, Omima Mirghani A, Sara Ali AE. Estimation of Technical Efficiency and Socioeconomic Characteristics affect that Technical Efficiency of Crop production in the Gezira scheme, Sudan. International Journal of Research &Review. 2017;4(3):1-5.
3. Borse JM, Ishamadhavan MM, Jagdale UD. Socioeconomic characteristics and varietal preferences of groundnut growers in Kolhapur district of Maharashtra. International Journal of Farm Sciences. 2017;7(1):127-131.
4. Medat NR, Singh Narendra, Kuthe Surendra, Patel Surykant. Input use, Cost Structure and return analysis of soybean In South Gujarat. International Journal of Agriculture Sciences. 2016;8(52):2508-2510.
5. Murthy C, Kulkarni Vilas, Kerur, Bouramma P. Cost and return structure of Maize production in North Karnataka. International Research Journal of Agricultural Economics& Statistics. 2015;6(2):364-370.
6. Reddy Venkat, Prabhu Kumar. Profitability analysis of Groundnut Production in Nalgonda district of Telangana. Journal of Business and Management. 2017;19(9):81-84.